

REMARKS

Claim 1-10 currently pending. Claim 10 has been withdrawn from consideration.

Claims 1-9 are rejected under 35 USC § 103(a) as being unpatentable over Rath (US 5,408,018).

The examiner stated that although Rath teaches that a tertiary alkyl group containing ether is preferred, Rath does not exclude the dialkyl ether which does not contain a tertiary alkyl group and therefore, it would have been obvious to a skilled artisan at the time the invention was made to employ Rath's teaching to prepare a trifluoride/secondary alcohol/dialkyl ether complex wherein the alkyl of the ether is secondary alkyl such as 2-butyl and isopropyl because such is taught in the reference and symmetric ether is cheaper to prepare and in the absence of any showing criticality and unexpected results.

Applicants believe the claimed combination of primary C₁-C₂₀ and/or secondary C₃-C₂₀ alcohols with bis-secondary ethers as the complexing agent for the boron trifluoride catalyst is non-obvious.

The polymerization mechanism requires protons or carbocations to be delivered from the complexing system which works best with sterically hindered molecules. For the instant polymerization of isobutene, the best working system known comprises tertiary ethers (i.e. tertiary butyl ether) and secondary alcohols (i.e., isopropanol). Other ethers than tertiary ethers also form complexes with boron trifluoride, however, alone are not capable of inducing isobutene polymerization. Furthermore, primary alcohols

alone are not as reactive as required. According to the present invention, it was surprisingly found that the combination of bis-secondary alcohols with primary alcohols, both components taken alone not being reactive or reactive enough, works well.

For the reasons expressed above, it is urged that the prior art references cited by the examiner either singly or in combination fail to anticipate or suggest the present invention as defined by the amended claims. Accordingly, a *prima facie* case of obviousness has not been established by the examiner, and the rejection under 35 USC § 103 should be withdrawn.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit Account No. 11-0345. Please credit any excess fees to such deposit account.

Respectfully submitted,

KEIL & WEINKAUF

A handwritten signature in black ink, appearing to read "Dan Kim", written in a cursive style.

Daniel S. Kim
Reg. No. 51,877

1350 Connecticut Ave., N.W.
Washington, D.C. 20036
(202)659-0100